IN THE CLAIMS:

1-46. (Cancelled)

47. (New) A dosage form for oral administration consisting of:

a compressed homogeneous mixture comprising:

a pharmacologically-active substance; and

a hydrostatic couple consisting of:

a) at least one crosslinked hydrodynamic fluid-imbibing polymer selected from the group consisting of:

i) an acrylic-acid polymer cross-linked with allylsucrose or allylpentaerythritol;

ii) one or more starch derivatives cross-linked by epichlorhydrin, phosphorous oxychloride ($POCl_3$), or sodium trimetaphosphate;

iii) a crosslinked polyglucan;

iv) a crosslinked polyethylenimine;

v) a crosslinked polyallylamine, and

vi) combinations thereof; and

b) at least one crosslinked hydrostatic pressure-modulating agent selected from the group consisting of:

i) a homopolymer of cross-linked N-vinyl-2-pyrollidone;

ii) a rapidly expanding cross-linked cellulose derivative; and

iii) combinations thereof.

48. (New) The dosage form of claim 47, wherein said crosslinked polyglucan is selected from the group consisting of amylose containing diester or diether crosslinks, dextran containing diester or diether crosslinks, pullulan succinate containing diester or diether crosslinks, pullulan glutarates containing diester or diether crosslinks, and combinations thereof.

49. (New) The dosage form of claim 47, wherein said rapidly expanding cross-linked cellulose derivative is selected from the group consisting of cross-linked carboxymethyl cellulose, sodium starch glycolate, and combinations thereof.

50. (New) The dosage form of claim 47, wherein the pharmacologically-active substance is selected from the group consisting of analgesics, anti-inflammatories, antimicrobials, amoebicidals, trichomonocidal agents, anti-Parkinson's, anti-malarials, anticonvulsants, anti-depressants, antiarthritics, anti-fungals, antihypertensives, antipyretics, anti-parasites, antihistamines, alpha-adrenergic agonists, alpha blockers, anesthetics, bronchial dilators, biocides, bactericides, bacteriostats, beta adrenergic blockers, calcium channel blockers, cardiovascular drugs, contraceptives, decongestants, diuretics, depressants, diagnostics, electrolytes, hypnotics, hormones, hyperglycemics, muscle relaxants, muscle contractants, ophthalmics, parasympathomimetics, psychic energizers, sedatives, sympathomimetics, tranquilizers, viricides, vitamins, non-steroidal anti-inflammatories, angiotensin converting enzyme inhibitors, polypeptides, proteins, and sleep inducers.

51. (New) The dosage form of claim 47, wherein said at least one crosslinked hydrodynamic fluid-imbibing polymer has a swell capacity in a fluid environment of between about 1 weight % to about 3000 weight %.

52. (New) The dosage form of claim 47, wherein said at least one crosslinked hydrostatic pressure-modulating agent is a rapidly swelling polymer having a swell capacity in a fluid environment of between about 0.5 weight % to about 500 weight %.

53. (New) The dosage form of claim 47, wherein said pharmacologically-active substance is released in a controlled manner with zero-order or near zero-order release kinetics over a therapeutically practical time period following administration of said dosage form.

54. (New) A dosage form for oral administration, consisting of:

I) a compressed homogeneous mixture comprising:

a pharmacologically-active substance;

one or more pharmaceutical excipients selected from the group consisting of a viscosity enhancers, enteric polymers, diluents, anti-adherents, glidants, binders, solubilizer, stabilizers, compaction enhancers, channeling agents, wetting agents, buffering agents, flavorants, adsorbents, sweetening agents, plasticizers, fillers, surfactants, colorants, and lubricants; and

a hydrostatic couple consisting of:

a) at least one crosslinked hydrodynamic fluid-imbibing polymer selected from the group consisting of:

i) an acrylic-acid polymer cross-linked with allylsucrose or allylpentaerythritol;

ii) one or more starch derivatives cross-linked by epichlorhydrin, phosphorous oxychloride ($POCl_3$), or sodium trimetaphosphate;

iii) a crosslinked polyglucan;

iv) a crosslinked polyethylenimine;

v) a crosslinked polyallylamine, and

vi) combinations thereof; and

b) at least one crosslinked hydrostatic pressure-modulating agent selected from the group consisting of:

i) a homopolymer of cross-linked N-vinyl-2-pyrollidone;

ii) a rapidly expanding cross-linked cellulose derivative; and

iii) combinations thereof; and

II) an outer coating.

55. (New) The dosage form for oral administration of claim 54, wherein said outer coating is selected from the group consisting of pH sensitive barrier polymers, and non-functional hydrosoluble polymers.

56. (New) A dosage form for oral administration consisting of:

a compressed homogeneous mixture comprising:

a pharmacologically-active substance; and

a hydrostatic couple consisting of:

a) at least one crosslinked hydrodynamic fluid-imbibing polymer selected from the group consisting of:

i) an acrylic-acid polymer cross-linked with allylsucrose or allylpentaerythritol;

ii) one or more starch derivatives cross-linked by epichlorhydrin, phosphorous oxychloride ($POCl_3$), or sodium trimetaphosphate;

iii) a crosslinked polyglucan;

iv) a crosslinked polyethylenimine;

v) a crosslinked polyallylamine, and

vi) combinations thereof; and

b) at least one crosslinked hydrostatic pressure-modulating agent selected from the group consisting of:

i) a homopolymer of cross-linked N-vinyl-2-pyrollidone;

ii) a rapidly expanding cross-linked cellulose derivative; and

iii) combinations thereof; and

c) an expansion source.

57. (New) The dosage form of claim 56, wherein said expansion source is selected from the group consisting of a carbon-dioxide precursor, an oxygen precursor, and a chlorine dioxide precursor.

58. (New) The dosage form of claim 57, wherein said carbon dioxide precursor is selected from the group consisting of carbonates, sesquicarbonate, hydrogen carbonate, potassium carbonate, lithium carbonate, sodium carbonate, ammonium carbonate, sodium amino acid carbonate, sodium glycine carbonate, L-lysine carbonate and arginine carbonate.

59. (New) The dosage form of claim 57, wherein said oxygen precursor is selected from the group consisting of sodium percarbonate, sodium perborate monohydrate, anhydrous sodium perborate, effervescent perborate, and sodium dichloroisocyannurate.

60. (New) The dosage form of claim 57, wherein said chlorine dioxide precursor is selected from the group consisting of sodium hypochlorite and calcium hypochlorite.

61. (New) A dosage form for oral administration, comprising:

I) a capsule;

II) a homogeneous mixture of plurality of compressed particles, each particle consisting of a mixture comprising a hydrostatic couple and a pharmacologically-active substance, said hydrostatic couple consisting of:

a) at least one crosslinked hydrodynamic fluid-imbibing polymer selected from the group consisting of:

i) an acrylic-acid polymer cross-linked with allylsucrose or allylpentaerythritol;

ii) one or more starch derivatives cross-linked by epichlorhydrin, phosphorous oxychloride ($POCl_3$), or sodium trimetaphosphate;

iii) a crosslinked polyglucan;

iv) a crosslinked polyethylenimine;

v) a crosslinked polyallylamine, and

vi) combinations thereof; and

b) at least one crosslinked hydrostatic pressure-modulating agent selected from the group consisting of:

i) a homopolymer of cross-linked N-vinyl-2-pyrollidone;

ii) a rapidly expanding cross-linked cellulose derivative; and

iii) combinations thereof;

wherein said compressed particles are provided in the capsule in a form selected from the group consisting of granules, spheroids, pellets, and combinations thereof.

62. (New) The dosage form for oral administration of claim 61, wherein said crosslinked polyglucan is selected from the group consisting of amylose containing diester or diether crosslinks, dextran containing diester or diether crosslinks, pullulan succinate containing diester or diether crosslinks, pullulan glutarates containing diester or diether crosslinks, and combinations thereof.

63. (New) The dosage form for oral administration of claim 61, wherein said rapidly expanding cross-linked cellulose derivative is selected from the group consisting of cross-linked carboxymethyl cellulose, sodium starch glycolate, and combinations thereof.

64. (New) The dosage form for oral administration of claim 61, wherein the pharmacologically-active substance is selected from the group consisting of analgesics, anti-inflammatories, antimicrobials, amoebicidals, trichomonocidal agents, anti-Parkinson's, anti-malarials, anticonvulsants, anti-depressants, antiarthritics, anti-fungals, antihypertensives, antipyretics, anti-parasites, antihistamines, alpha-adrenergic agonists, alpha blockers, anesthetics, bronchial dilators, biocides, bactericides, bacteriostats, beta adrenergic blockers, calcium channel blockers, cardiovascular drugs, contraceptives, decongestants, diuretics, depressants, diagnostics, electrolytes, hypnotics, hormones, hyperglycemics, muscle relaxants, muscle contractants, ophthalmics, parasympathomimetics, psychic energizers, sedatives, sympathomimetics, tranquilizers, viricides, vitamins, non-steroidal anti-inflammatories, angiotensin converting enzyme inhibitors, polypeptides, proteins, and sleep inducers.

65. (New) The compressed dosage form of claim 61, wherein said at least one crosslinked hydrodynamic fluid-imbibing polymer has a swell capacity in a fluid environment of between about 1 weight % to about 3000 weight %.

66. (New) The dosage form for oral administration of claim 61, wherein said at least one crosslinked hydrostatic pressure-modulating agent is a rapidly swelling polymer having a swell capacity in a fluid environment of between about 0.5 weight % to about 500 weight %.

67. (New) The hydrostatic delivery system of claim 61, wherein said pharmacologically-active substance is released in a controlled manner with zero-order or near zero-order release kinetics over a therapeutically practical time period following administration of said dosage form.

68. (New) A dosage form for oral administration, consisting of:

I) a capsule;

II) a homogeneous mixture of a plurality of compressed particles, each particle consisting of a mixture comprising a hydrostatic couple, a pharmacologically-active substance, and one or more pharmaceutical excipients selected from the group consisting of a viscosity enhancers, enteric polymers, diluents, anti-adherents, glidants, binders, solubilizer, stabilizers, compaction enhancers, channeling agents, wetting agents, buffering agents, flavorants, adsorbents, sweetening agents, plasticizers, fillers, surfactants, colorants, and lubricants;

wherein said plurality of compressed particles are provided in said capsule, and

wherein said hydrostatic couple consists of:

a) at least one crosslinked hydrodynamic fluid-imbibing polymer selected from the group consisting of:

i) an acrylic-acid polymer cross-linked with allylsucrose or allylpentaerythritol;

ii) one or more starch derivatives cross-linked by epichlorhydrin, phosphorous oxychloride ($POCl_3$), or sodium trimetaphosphate;

iii) a crosslinked polyglucan;

iv) a crosslinked polyethylenimine;

v) a crosslinked polyallylamine, and

vi) combinations thereof; and

b) at least one crosslinked hydrostatic pressure-modulating agent selected from the group consisting of:

i) a homopolymer of cross-linked N-vinyl-2-pyrollidone;

ii) a rapidly expanding cross-linked cellulose derivative; and

iii) combinations thereof; and

III) an outer coating.

69. (New) The dosage form for oral administration of claim 68, wherein said outer coating is selected from the group consisting of pH sensitive barrier polymers, and non-functional hydrosoluble polymers.

70. (New) A dosage form for oral administration, comprising:

I) a capsule;

II) a homogeneous mixture of plurality of compressed particles, each particle consisting of a mixture comprising a hydrostatic couple and a pharmacologically-active substance, said hydrostatic couple consisting of:

a) at least one crosslinked hydrodynamic fluid-imbibing polymer selected from the group consisting of:

i) an acrylic-acid polymer cross-linked with allylsucrose or allylpentaerythritol;

ii) one or more starch derivatives cross-linked by epichlorhydrin, phosphorous oxychloride ($POCl_3$), or sodium trimetaphosphate;

iii) a crosslinked polyglucan;

iv) a crosslinked polyethylenimine;

v) a crosslinked polyallylamine, and

vi) combinations thereof; and

b) at least one crosslinked hydrostatic pressure-modulating agent selected from the group consisting of:

i) a homopolymer of cross-linked N-vinyl-2-pyrollidone;

ii) a rapidly expanding cross-linked cellulose derivative; and

iii) combinations thereof; and

c) an expansion source,

wherein said compressed particles are provided in the capsule in a form selected from the group consisting of granules, spheroids, pellets, and combinations thereof.

71. (New) The dosage form of claim 70, wherein said expansion source is selected from the group consisting of a carbon-dioxide precursor, an oxygen precursor, and a chlorine dioxide precursor.

72. (New) The dosage form of claim 71, wherein said carbon dioxide precursor is selected from the group consisting of carbonates, sesquicarbonate, hydrogen carbonate, potassium carbonate, lithium carbonate, sodium carbonate, ammonium carbonate, sodium amino acid carbonate, sodium glycine carbonate, L-lysine carbonate and arginine carbonate.

73. (New) The dosage form of claim 71, wherein said oxygen precursor is selected from the group consisting of sodium percarbonate, sodium perborate monohydrate, anhydrous sodium perborate, effervescent perborate, and sodium dichloroisocyannurate.

74. (New) The dosage form of claim 71, wherein said chlorine dioxide precursor is selected from the group consisting of sodium hypochlorite and calcium hypochlorite.